CHARGE NUMBER: 0400
PROJECT TITLE: Tobacco Properties Applications
PROJECT LEADER: R. S. Mullins
PERIOD COVERED: September 1985
DATE OF REPORT: October 10, 1985

## I. Maker Optimization Program

Objective:

Optimize cigarette makers to reduce degradation of filler and improve product quality.

Status:

An initial factory test of the carding comb adjustment was conducted in the Manufacturing Center by QA on October 2. No data from the test is available yet.

Since an extended development effort has failed to bring the performance of the belt-feed hopper near a level suitable for use in Manufacturing, no further development or evaluation of the hopper is planned. The modifications are being removed from the hopper and it is being returned to a standard configuration.

Plans:

Assist in factory evaluation of carding comb adjustment. Continue development and evaluation of the pneumatic picker.

## II. Coal Strength Studies

Objective:

Investigate the factors affecting cigarette coal strength as measured by the existing coal strength test. Investigate alternate methods of measuring coal strength.

Status:

A second test has confirmed that the coal failure rate of cigarettes containing dense ends is higher than that of cigarettes without dense ends (52% vs 40%). Tests are planned to determine if this difference is attributable to density differences in the middle portion of the cigarettes.

Plans:

Continue to conduct tests to determine the factors affecting cigarette coal strength as measured by the existing test. Propose modifications to improve the existing test.

## III. Bonded Cigarette Ends

Objective:

Determine the effects on cigarette quality of applying binder to the ends of cigarettes. Develop a process for applying binders to the ends of cigarettes at production rates.

Status:

Tobacco fallout in the Borgwaldt loose ends test was reduced from 0.6 grams to 0.3 grams by applying 0.02% pectin binder to the ends of the cigarettes. The application of tipping adhesive at a level to 0.05% reduced the fallout to 0.02 grams. At these levels the binders were visually undetectable.

Discussions were held with Dr. Joseph Crowley, a consultant on Ink Jet Printing Technology, regarding the feasibility of using ink jets to apply binders to the ends of cigarettes at production rates. Dr. Crowley felt that this application was within the capabilities of the ink jet technology and recommended that the application be pursued.

Plans:

Investigate the effects of alternate binders and application levels on tobacco fallout. Obtain and test an ink jet system for use in this application.